



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,347	05/09/2005	Hansjorg Ander	RO4016US (#90568)	4202

7590 04/25/2006

D. Peter Hochberg Co.
1940 East 6th St.
6th Floor
Cleveland, OH 44114

EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/534,347	ANDER ET AL.	
	Examiner	Art Unit	
	Michael Bernshteyn	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/09/2005</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 1 is objected to because of the following informalities: it recites: "...said polymer(meth)acrylates...". There are only monomers in a). Appropriate correction is required.
2. Claims 1 is objected to because of the following informalities: it recites: "...Tserevitinov hydrogen". More commonly in chemistry field is used the spelling "Zerewitinoff hydrogen". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14 and 15 provide for the use of the polymer composition as an adhesive or as a sealant and for production of pressure sensitive adhesive tapes, but, since the claims do not set forth any steps involved in the methods/processes, it is unclear what methods/processes applicant is intending to encompass. The claims are indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 14 and 15 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process

Art Unit: 1713

claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 1713

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 1-9, 12, 13 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Inagi et al. (EP 0735 122 A2).

Inagi discloses an adhesive base material comprises a polymer obtained by polymerizing a glucosloxy alkyl (meth)acrylate, a **hydroxyalkyl (meth)acrylate** and a **polyfunctional monomer** (abstract).

With regard to the limitation of instant claims 1-3, 8, 9 and 13, Inagi discloses that examples of the hydroxyalkyl (meth)acrylate (b) include **2-hydroxyethyl (meth)acrylate** and **hydroxypropyl (meth)acrylate** (page 3, lines 48-49). This group is readable as component a) (polar methacrylates) in instant claim 1.

Illustrative of the alkyl (meth)acrylate (c) include **ethyl (meth)acrylate**, **n-butyl (meth)acrylate**, isobutyl (meth)acrylate, **hexyl (meth)acrylate**, octyl (meth)acrylate, **2-ethylhexyl (meth)acrylate**, isooctyl (meth)acrylate, decyl (meth)acrylate, isodecyl (meth)acrylate, lauryl (meth)acrylate and stearyl (meth)acrylate. Of these, particularly preferred are n-butyl (meth)acrylate and 2-ethylhexyl (meth)acrylate (page 3, lines 50-53). This group is readable as component b) (apolar methacrylates) in instant claim 1.

Inagi discloses that it is preferred to mix the glucosloxy alkyl (meth)acrylate (a), a hydroxyalkyl (meth)acrylate (b) and alkyl (meth)acrylate (c) at molar ratio of 0.1-10:10-40:5-20 (page 3, lines 54-55), which is within the claimed range.

As the polyfunctional monomer (d), any monomer can be used insofar as it has at least two functional groups per molecule. Examples include monomers having at least two vinyl groups per molecule such as **ethylene glycol di(meth)acrylate**, diethylene glycol di(meth)acrylate, **triethylene glycol di(meth)acrylate**, polyethylene glycol di(meth)acrylate, **N,N'-methylenebisacrylamide**, etc. Of these, preferred are ethylene glycol di(meth)acrylate (EGDMA) and triethylene glycol di(meth)acrylate (TEGDMA) for their particularly high safety (page 3, line 56 through page 4, line 4).

This group is readable as component c) (polyfunctional methacrylates) in instant claim 1.

Inagi discloses that no particular limitation is imposed in the polymerization process, and the polymerization of the above monomers may therefore be conducted in a manner known *per se* in the art. No particular limitation is imposed on a polymerization initiator suitable for use in the radical polymerization. When an organic solvent is employed, usable examples of the initiator include **peroxides** and **azo** compounds. It is desired to add the polymerization initiator in an amount of 0.01 to 10 wt.% based on the sum of the monomers (page 4, lines 17-28), which is within the claimed range. This group is readable as component d) (an initiator) in instant claim 1.

Alternatively, it is also possible to conduct the polymerization without using any polymerization initiator. This can be effected by exposing the monomers to radiation,

Art Unit: 1713

light, ultraviolet rays or low-temperature plasma to form polymerization-initiating free radicals and then performing the polymerization (page 4, lines 36-38).

Examples of the solvent suitable for use in solution polymerization include water, methanol, isopropyl alcohol, dioxane, tetrahydrofuran, acetone, acetonitrile, dimethyl formamide and dimethyl sulfoxide. These solvents can be used either singly or in combination (page 4, lines 29-31). This group is readable as component e) (a liquid) in instant claim 1.

Therefore, all the limitations of instant claim 1 and dependable claims 2, 3, 8, 9 and 13 are expressly met by Inagi.

With regard to the limitation of instant claims 4 and 5, Inagi discloses the examples of amino-containing monomers, such as dimethylamino(meth)acrylate and diethylamino(meth)acrylate (page 4, lines 15-16).

With regard to the limitation of instant claims 6, 7 and 16, Inagi discloses the examples of amido-containing monomers, such as (meth)acrylamid, dimethyl(meth)acrylamide, diethyl(meth)acrylamide, butoxymethyl(meth)acrylamide, etoxyethyl(meth)acrylamide, diacetone(meth)acrylamide and vinylpyrrolidone (page 4, lines 13-14).

With regard to the limitation of instant claim 12, Inagi discloses that as the polyfunctional monomer, triallyl **isocyanate** can be used (page 4, line 2).

5. Claims 10-11 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Inagi et al. in view of Weaver et al. (U.S. Patent 6,713,641).

The disclosure of Inagi resided in § 3 incorporated herein by reference.

With regard to the limitation of instant claims 10-11, Inagi does not disclose that (meth)acrylated polyesters are conversion products of OH-terminated polyesters polyols with (meth)acrylic acid or reaction products of carboxyl groups-containing polyester polyols with hydroxyl groups-containing (meth)acrylates; and (meth)acrylated polyurethanes are conversion products of amine- or hydroxyl-terminated (meth)acrylates with diisocyanates or polyisocyanates.

Weaver discloses a coating composition wherein the polymerizable vinyl compounds comprise a solution of a polymeric, polymerizable vinyl compound selected from **acrylated and methacrylated polyesters**, acrylated and methacrylated polyethers, acrylated and methacrylated epoxy polymers, **acrylated or methacrylated urethanes**, and mixtures thereof, in a diluent selected from **monomeric acrylate and methacrylate esters** (claim 17, col. 25, lines 24-31). The acrylated or methacrylated polymers and oligomers typically are combined with monomers, which contain one or more acrylate or methacrylate groups, e.g., monomeric acrylate and methacrylate esters, and serve as reactive diluents. The unsaturated polyesters, which are prepared by standard polycondensation techniques known in the art, are most often combined with either styrene or other monomers, which contain one or more acrylate or methacrylate groups and serve as reactive diluents (col. 13, lines 9-17).

With regard to the limitation of instant claims 14-15, Inagi discloses that this adhesive base material exhibits excellent adhesion (abstract).

Art Unit: 1713

Both references are analogous art because they are from the same field of endeavor concerning coating and pressure sensitive adhesive polymer compositions.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate acrylated and methacrylated polyesters acrylated or methacrylated urethanes as taught by Zang in Inagi's pressure sensitive adhesive polymer composition because such combination with acrylate and methacrylate esters are suitable as adhesive and coating for such substrates as metalsm aluminum, steel, plastics, glass, wood, paper, and leather (US'641, col. 2, lines 62-65), and thus to arrive the subject matter of claims 10-11 and 14-15.

Conclusion

The references under "X" category in International Search Report were considered but they are not relevant. U.S. Patent 5,326,644 and U. S. Patent 4,110,290 do not disclose higher functional (meth)acrylate (component c) in claim 1); they both disclose dodecyl mercaptan and other mercaptans like chain transfer agents.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1713

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn
Patent Examiner
Art Unit 1713

MB
04/11/2006



DAVID W. WU
ADVISORY PATENT EXAMINER
EBC CENTER 1700